

Mathematics: Year 9 (nurture)

Intent:

At Brayton Academy, we recognise the importance of mathematics as a life skill in society and industry, as well as a beautiful and elegant subject in its own right.

We have carefully sequenced the foundational skills to be consistently developed throughout pupils' time at school, to provide students with the fluency they need to tackle problems confidently.

Our curriculum is grounded in using assessment to identify where students are and builds up knowledge securely to ensure no gaps are left. Our expectations are very high; we expect pupils to take pride in their work, to complete homework to a high standard, bring a positive attitude to the classroom and always strive to be their best. This goes hand-in-hand with helping students to develop a love of learning maths by supporting them to be successful at every step through expert teaching. We believe that all students have the potential to learn maths to a high level when we take this approach.

- Create an atmosphere where ALL students feel comfortable to give their all to learning maths without being scared of making mistakes
- Open ALL students' eyes to the real-world transferable skills that maths equips them with and the opportunities that arise from this
- Encourage ALL students to further develop their resilience skills with a determined mind-set when approaching new material and problem-solving tasks
- Eliminate any fear of maths through meeting ALL students at their level and supporting them to be successful

Implementation:

In year 9 pupils begin studying either the higher or foundation GCSE course. Staff constantly assess whether pupils are in the appropriate band and there is still the opportunity to move between tiers throughout the year if appropriate.

The focus for the year 9 foundation programme of study is to identify and close gaps in pupils' knowledge that have prevented them from going on to study the higher material. This is done through careful use of assessment. In the majority of cases pupils simply need a little more time to master concepts, and the year 9 foundation curriculum is set up to give them this, whilst ensuring that we still move pupils' knowledge on wherever possible. The focus this year is on fluency with mathematical concepts. While pupils will be taught to apply these concepts wherever possible a focus on mathematical fluency will help to prevent any potential barriers to learning around literacy to prevent students' mathematical abilities from developing.

Throughout the year pupils will be set homework on the Hegarty Maths platform that will revise content they have already studied, rather than focusing on what they are currently looking at in class. This gives them another opportunity to ensure that previously studied material is retained.

Our nurture scheme of learning supports students who have previously found maths more challenging by introducing concepts at a slower pace than our regular scheme of learning, and allowing more time for those concepts to be practised, re-visited over the course of the year and interleaved with other topics.

Term	Year 9 (nurture)		
	Topic	Knowledge	Skills/Assessment
Term 1	Decimals	Addition and subtraction of decimal numbers	<p>All topics begin with an initial assessment, and prior knowledge gaps are filled in before moving on to new content.</p> <p>Pupils complete a revision quiz part-way through each half term to be marked by their teacher. This will allow gaps to be closed before the end of half-term assessment.</p> <p>At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.</p>
	Organising data	Frequency trees and two-way tables	
	Equations	Solve 2-step equations including those involving division	
	Fractions, decimals and percentages	Convert between fractions, decimals and percentages	
	Congruence and similarity in 2D shapes	Understand and apply congruence in 2D shapes, and similarity in 2D shapes in simple contexts	
	Ratio	The form 1: n, incorporate decimals knowledge into existing ratio skills, convert between ratios and fractions, reverse ratio problems	
Term 2	Sequences	Deduce and apply term-to-term rules for linear, geometric and pattern sequences	<p>All topics begin with an initial assessment, and prior knowledge gaps are filled in before moving on to new content.</p> <p>Pupils complete a revision quiz part-way through each half term to be marked by their teacher. This will allow gaps to be closed before the end of half-term assessment.</p> <p>At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.</p>
	Averages	Problem solving with knowledge of the mean, median, mode and range	
	Proportion	Solve proportion problems using the unitary method	
	Percentage increases and decreases	Perform percentage increases and decreases with and without a calculator using the adding on and subtracting method. Combine single-step non-calculator percentages of amounts	
	Probability	Use mutual exclusivity to calculate missing probabilities, experimental probability	
	Money	Price lists, total prices, change, discounts, hourly rates, price comparisons	
Term 3	Using a calculator	Converting fractions and decimals on a calculator, using a calculator for time questions, understand how calculators apply BIDMAS, powers and roots	<p>All topics begin with an initial assessment, and prior knowledge gaps are filled in before moving on to new content.</p> <p>Pupils complete a revision quiz part-way through each half term to be marked by their teacher. This will allow gaps to be closed before the end of half-term assessment.</p> <p>At the end of each half-term there will be an assessment on all of the topic's pupils have studied in that block.</p>
	Straight line graphs	Equations of horizontal and vertical lines, plot a linear graph	
	Estimation	Estimate solutions by rounding to 1 significant figure	
	Conversion graphs	Convert between units of measure and currency using conversion graphs, draw conversion graphs, make comparisons	
	Consolidation/ revision	This half term is used to revise content from year 9 in preparation for year 10.	